John A. Mathis
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Objective
A research and development position in a forensic or industrial setting that requires knowledge of chromatography and mass spectrometry.

Education and Experience
April 2004 – Present, Noramco Inc. Athens, GA
Postdoctoral Analytical Chemist
Liquid chromatography – atmospheric pressure ionization mass spectrometry of active pharmaceutical ingredients.

January 2000 – March 2004, Ohio University Athens, OH
Ph.D., Analytical Chemistry; Research title: Development of chromatography and mass spectrometry methods for the detection of explosives.
Graduate teaching associate for analytical and forensic chemistry courses.
Research associate for joint project with the FBI, entitled, Survey of environmental background interferences affecting high explosives residue analysis.

June 2001 – August 2001, Federal Bureau of Investigation, FBI Academy Quantico, VA.
Visiting Scientist, Forensic Science Research Unit. Research title: Electrospray ionization mass spectrometry of organic high explosives.

January 1998 – December 1999, East Carolina University Greenville, NC
M.S., Analytical Chemistry; Thesis title: Solubility and Separation of Organic Species in a Subcritical Water Environment.

May 1994 – May 1998, East Carolina University Greenville, NC
B.S. Biochemistry; Cumulative Undergraduate GPA: 3.4

June 1993 – May 1997, United States Marine Corps Cherry Point, NC and Okinawa, Japan
Navy Achievement and Good Conduct Medals.

June 1992 – May 1993, University of Alabama at Birmingham Birmingham, AL
Undergraduate chemistry coursework and research assistant in cell biology laboratory.

May 1990 – June 1992, Gadsden State Community College Gadsden, AL
Outstanding student award in Science, Math and Engineering.

Professional Affiliations

- American Chemical Society
- American Society for Mass Spectrometry

Instrumental Skills

- Thorough knowledge of gas and liquid chromatography systems.
- Experience with several chromatography and mass spectrometry techniques for the detection of small molecules, including HPLC-MS and GC-MS.
- Extensive experience with Agilent LC/MSD Trap XCT, Bruker Esquire LC, Finnigan MAT LCQ, TSQ 700 and VG Quattro I (Micromass) atmospheric pressure ionization instruments. Agilent 1100, Hewlett Packard 1050 and 1090 HPLC systems. Finnigan MAT GCQ and HP 5890/6890GC-MS with electron impact, positive and negative chemical ionization.
- Software experience: Bruker Data Analysis, Finnigan X-Calibur, INCOS; Micromass MassLynx and ChemStation for instrument control. Windows, Macintosh and Unix platforms. Minitab, Systat and PC Spartan. Extensive knowledge of Microsoft Office.
- Knowledge of sample preparation techniques including liquid-liquid, solid phase extraction and solid phase microextraction.
- Working knowledge of various instruments and techniques including Atomic Absorption, Fluorescence, UV, FTIR and NIR spectrometers; capillary electrophoresis, supercritical fluid extraction/chromatography cyclic voltammetry and polarography.

Presentations and Publications

- The 8th International Symposium on Supercritical Fluid Chromatography and Extraction. St. Louis, MO, July 1998. Solubility behavior of benzene, ethylbenzene and xylene in subcritical water. John A. Mathis, Amy M. Batten and Yu Yang.
- American Chemical Society 217th National Meeting, San Francisco, CA, March 1999. Solubility behavior of *m*-xylene in subcritical water. Christopher P. Washburn, John A. Mathis and Yu Yang.
- 16th Triangle Symposium and Instrument Exhibit, Raleigh, NC, May 1999. Solubility and separation of organic species in a subcritical water environment. John A. Mathis, Aaryn D. Jones and Yu Yang.
- The 10th International Symposium on Supercritical Fluid Chromatography/Extraction, Myrtle Beach, SC, August 2001. Flame ionization detection in subcritical water chromatography. Aaryn D. Jones, John A. Mathis, Melissa A. Francis and Yu Yang.
- J. Chromatography A. 2001, 942, 231 - 236. Flame Ionization Detection After Splitting the Water Effluent in Subcritical Water Chromatography. Yu Yang, Aaryn D. Jones, John A. Mathis and Melissa Francis.
- The 49th ASMS Conference on Mass Spectrometry and Allied Topics. Chicago, IL, May 2001. Smokeless Powder Comparison Using HPLC/ES-ITMS. John A. Mathis and Bruce R. McCord.
- The 29th Annual Meeting, Mid-Atlantic Association of Forensic Scientists. Frederick, MD, April 2002. LCMS Method for Smokeless Powder Comparison. John A. Mathis and Bruce R. McCord.

- J. Chromatography A. 2003, 988, 107 - 116. A Gradient Reversed Phase High Performance Liquid Chromatography- Electrospray Ionization Mass Spectrometric Method for the Comparison of Smokeless Powders. John A. Mathis and Bruce R. McCord.
- The 30th Annual Meeting, Mid-Atlantic Association of Forensic Scientists. Annapolis, MD, May 2003. Electrospray Ionization Mass Spectrometry of Organic Explosives. John A. Mathis and Bruce R. McCord.
- The 51st ASMS Conference on Mass Spectrometry and Allied Topics. Montreal, QC, Canada, June 2003. Optimization of Electrospray Ionization Mass Spectrometric Detection for the Analysis of Smokeless Powders. John A. Mathis, Olivier Collin and Bruce R. McCord.
- Federation of Analytical Chemistry and Spectroscopy Societies, FACSS 30th Annual Meeting: October 2003, Ft. Lauderdale, FL. Electrospray Ionization Mass Spectrometry of Organic Explosives. John A. Mathis, Olivier Collin and Bruce R. McCord.
- The Academy of Forensic Sciences 56th Annual Meeting, February 2004 Dallas, TX. Forensic Analysis of Explosive Residue Background. Steven H. Wise, Olivier Collin, John A. Mathis, Bruce R. McCord.
- Forensic Science International, 2004, *in press*. Mobile Phase Influence on Electrospray Ionization for the Analysis of Smokeless Powders by Gradient Reversed Phase High-Performance Liquid Chromatography-ESIMS. John A. Mathis and Bruce R. McCord.
- Rapid Commun. Mass Spectrom. 2005, 19, 99-104. The Analysis of High Explosives by Liquid Chromatography Electrospray Ionization Mass Spectrometry: Multiplexed Detection of Negative Ion Adducts. John A. Mathis and Bruce R. McCord.
- Johnson & Johnson Symposium on Chromatography, September 2004 Phillipsburg, NJ. Using HPLC/MS to Measure a Trace Impurity in an API: Triumphs and Tragedies. Bruce P. Johnson and John A. Mathis.

References Available upon Request

Keywords: Analytical Chemistry, Forensic, Explosives, Pharmaceutical, Drug, Chromatography, Mass Spectrometry, HPLC, LC-MS, GC, GC-MS.